

ABSTRACT OF THE DISCLOSURE

The invention provides mechanisms for the co-localization in a living cell of a target molecule and of an inhibitor for the target molecule. The invention also
5 provides novel chimeric tRNA^{lys}-ribozyme molecules that compete effectively with tRNA^{lys} for HIV-1 reverse transcriptase binding sites. The chimeric human tRNA^{lys}-ribozymes inhibit HIV reverse transcription by delivering
10 inhibitors such as ribozymes of HIV-1 reverse transcriptase directly to the virion particle and render it non-functional. The chimeric molecules of the invention thus serve as highly specific non-toxic therapeutic agents and vaccines for viral, including
15 lentiviral, infections. These chimeric molecules also reveal a novel, site specific RNA cleaving activity of HIV-1.

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